

## ABSTRACT OF THE DISCLOSURE

~~57~~ A silent chain power transmission apparatus comprises an endless silent chain and a sprocket. The chain includes link plates each having teeth profiled by inside and outside tooth faces. The inside tooth faces are identical to tooth profiles arranged axially of a hob cutter for forming teeth of the sprocket. The inside and outside tooth faces are formed to satisfy  $H_i = H_o + H_s$ , where  $H_i$  is a distance from a pin center line 10  $L_p$ , passing over the centers of pins interconnecting the link plates, to a pitch line  $L_i$  of the inside tooth faces,  $H_o$  is a distance from the pin center line to a pitch line  $L_o$  of the outside tooth faces, and  $H_s$  is an amplitude of polygonal motion of the chain. Each link plate also has a concave bottom surface 15 defined between the teeth thereof at a position where its interference with edges of the involute teeth, arising owing to the chain polygonal motion amplitude when the outside tooth faces are brought into meshing engagement with the involute teeth and get seated thereon, can be avoided.